REMARKS

Claims 14, 15, 17-20, and 22, and 24-36, all the claims pending in the application, stand rejected on prior art grounds. Applicant respectfully traverses these objections/rejections based on the following discussion.

I. The Prior Art Rejections

Claims 14, 17, 18, and 31-36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Au et al., hereinafter "Au" (U.S. Patent No. 5,528,188), in view of Brady, et al., hereinafter "Brady" (U.S. Patent No. 5,314,841). Claims 24 and 26-30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ker et al., hereinafter "Ker" (5,631,793) in view of Au in view of Brady. Claim 25 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ker, Au, and Brady in view of Sasaki. Applicant respectfully traverses this rejection based on the following discussion.

A. The Rejection Based on Au and Brady

Beginning on page 8, the Office Action responds to Applicant's explanation of why the circuit described in Au cannot be utilized in silicon-over-insulator (SOI) by stating that because the body of the transistor in Au is controlled by the control circuit 40, when the structure

disclosed in Au is constructed using SOI technology, the control circuit 40 will still control the bias of the body. However, this reasoning does not contradict Applicant's previous explanation that the structure disclosed in Au cannot be constructed using SOI technology. Instead, the Office Action makes an incorrect presumption that the structure described in Au can be formed using SOI technology. Thus, where the Office Action argues ". . . when the circuitry in Au is fabricated by using SOI technology . . ." the Office Action presents an impossible situation since the circuitry in Au cannot be fabricated using SOI technology. In other words, the argument that Au is properly combinable with Brady is based upon an incorrect presumption that the circuitry within Au can be fabricated using SOI technology (which, as discussed in greater detail below, is incorrect), and therefore, the arguments presented in the Office Action are defective because the teachings from Au cannot be applied to SOI technologies.

Au discloses a SCR - a silicon controlled rectifier (column 4, lines 40-44). More specifically, Au discloses a "low-voltage triggering silicon-controlled rectifier (LVTSCR)" (column 5, lines 5-8). SCR's require an N-well for their operation. Without an N-well, SCR's cannot operate. For this simple fact, SCR's cannot be fabricated using SOI technology because there is no N-well in SOI technology. Therefore, teachings regarding SCR's are simply irrelevant in technologies that utilize SOI.

More specifically, Au contains a PNPN device with a MOSFET that is electrically connected to an N-well and to ground in bulk Silicon (Au Figures 4a-4b). One cannot build a PNPN element in SOI technology because the body is floating with respect to the underlying substrate. A Low Voltage Trigger SCR cannot be built in SOI since LVTSCR circuits require

use of a P+ diffusion in an N-well, a MOSFET connected to a well, a substrate region, and a n+ cathode. There is no N-well in SOI technology, hence, an SCR cannot be constructed in SOI. Hence, it would not be obvious to build an SCR in SOI. Au's circuit is electrically connected to the chip substrate. Au is not a triple well technology, and hence it cannot electrically connect to the substrate and have operability. Au also has a resistor, a capacitor, and a pad; however, as shown in Figure 4b of Au, a network exists between the pad 34 and ground potential. To the contrary, with the claimed invention, because of the body is floating with respect to the underlying substrate, the pass transistor is not electrically connected to ground potential.

Therefore, Applicant respectfully submits that the proposed combination of Brady and Au is invalid, since a silicon controlled rectifier cannot be built using SOI technology. Thus, it is Applicant's position that a prima facie case of obviousness has not been set forth because, in this instance, Brady is not properly combinable with Au.

If the device in Au were transferred to the SOI technology field, this would destroy the operability of the device in Au because Au relies on the body being non-floating. When the proposed combination of references destroys the operability of one of the references, this indicates that the proposed combination would not have been made by one ordinarily skilled in the art.

Non-SOI structures do not insulate the body from the underlying substrate, while in SOI structures the body is insulated (floating). The technologies with respect to the body potential are fundamentally different, and teachings relating to bodies of non-SOI structures generally cannot be transferred to the floating bodies of SOI structures because of the fundamental difference

regarding the body potential. While SOI technologies present substantial advantages over non-SOI technologies (because of the floating body) SOI technologies also present a number of impediments which were not present in non-SOI technologies (also because the body is floating). Generally non-SOI technologies cannot be transferred to SOI technologies. Therefore, simply referring to Brady as disclosing an SOI structure and then concluding that all the non-SOI teachings in Au can readily apply to an SOI structure is not reasonable given that the structure in Au must be modified significantly in order to be functional within the SOI technology environment. Indeed, simply transferring the structure shown in Au to an SOI environment would render the operation of the device in Au non-functional because Au relies upon the body being non-floating in order to have the device properly operate. Thus, because the proposed combination destroys the operability of the Au reference, Applicant submits that a prima facie case of obviousness has not been set forth. This is especially true considering that the claimed invention is directed toward solving problems associated with the potential of the floating body which is a problem unique to SOI structures.

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 14 and 17.

B. The Rejection Based on Ker in view of Au and Brady

It is Applicant's position that a prima facie case of obviousness has not been set forth because, in this instance, Brady is not properly combinable with Au or Ker. The Office Action

proposes to combine Brady with Au and Ker to show that the technology within Au and Ker could be extended to SOI technology. However, this combination is not reasonable given that the invention is directed toward controlling the body potential of an SOI transistor and that the teachings of non-SOI technologies are not generally transferable to the floating bodies of SOI structures. Further, as described in detail below, if the devices in Au and Ker were transferred to the SOI technology field, this would destroy the operability of the devices in Au and Ker because Au and Ker rely on the body being non-floating. When the proposed combination of references destroys the operability of one of the references, this indicates that the proposed combination would not have been made by one ordinarily skilled in the art.

As pointed out above, non-SOI structures do not insulate the body from the underlying substrate, while in SOI structures the body is insulated (floating). The technologies with respect to the body potential are fundamentally different, and teachings relating to bodies of non-SOI structures generally cannot be transferred to the floating bodies of SOI structures because of the fundamental difference regarding the body potential. While SOI technologies present substantial advantages over non-SOI technologies (because of the floating body) SOI technologies also present a number of impediments which were not present in non-SOI technologies (also because the body is floating). Generally, non-SOI technologies cannot be transferred to SOI technologies, unless compensation is made for the floating body. Therefore, simply referring to Brady as disclosing an SOI structure and then concluding that all the non-SOI teachings in Au and Ker can readily apply to an SOI structure is not reasonable given that the structures in Au and Ker must be modified significantly in order to be functional within the SOI technology environment.

Indeed, simply transferring the structures shown in Au and Ker to an SOI environment would render the operation of the devices in Au and Ker non-functional because Au and Ker rely upon the body being non-floating in order to have the devices properly operate. Thus, because the proposed combination destroys the operability of the Au and Ker references, Applicant's submit that a prima facie case of obviousness has not been set forth. This is especially true considering that the claimed invention is directed toward solving problems associated with the potential of the floating body which is a problem unique to SOI structures.

As shown above, Au and Ker are not properly combinable with Brady. There is nothing within Ker or Au that would have suggested to one ordinarily skilled in the art that they should combine Brady with Au and/or Ker. Therefore, this rejection is similarly defective as the previous rejection in that a prima facie case of obviousness has not been set forth. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 24 and 26-30.

C. The Rejection Based on Ker in view of Au, Brady, and Sasaki

The Examiner combines Ker with Au. The examiner admits that Ker does not disclose the device a first circuit control network, nor a second control network that discloses a second device. One cannot combine Ker with Au and Brady, since Au is a SCR for switching an SCR, and Ker is bulk CMOS, and Brady is SOI. One cannot map the solution of Au into Ker and Brady, since it would not be operable nor possible to design and implement. Hence it would not

be obvious to combine Ker, Brady and Au. Further, Sasaki uses an RC network which is connected to a pad, a resistor, a capacitor and this is electrically connected to the gate of a MOSFET between the pad and ground potential. Thus, Sasaki teaches gate modulation and not body modulation.

As shown above, Au and Ker are not properly combinable with Brady. The Office Action makes reference to Sasaki for the limited purpose of disclosing a resistive transistor and there is nothing within Sasaki that would have suggested to one ordinarily skilled in the art that they should combine Brady and Au and Ker. Therefore, this rejection is similarly defective as the previous rejection in that a prima facie case of obviousness has not been set forth. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejection of claim 25.

II. Formal Matters and Conclusion

In view of the foregoing, Applicant submits that claims 14, 15, 17-20, and 22, and 24-36, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

10/631,098

Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0456.

Respectfully submitted,

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